

PATENT

MS174301.01/MSFTP252US

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Date: 9-21-05

Himanshu S. Amin

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of:

Applicants(s): Manish S. Prabhu, *et al.*

Serial No: 09/893,943

Filing Date: June 28, 2001

Examiner: Andy Ho

Art Unit: 2194

Title: REMOTING FEATURES

Mail Stop Petition
 Commissioner for Patents
 P.O. Box 1450
 Alexandria, Virginia 22313-1450

**PETITION TO VACATE THE FINAL REJECTION AS PREMATURE
 PURSUANT TO 37 CFR § 1.181**

Dear Sir:

Applicants' representative submits this Petition in response to the Advisory Action dated September 6, 2005 issued in connection with the above-identified patent application. Favorable consideration of the Petition is respectfully requested in view of the following comments. In the event any additional fees may be due, the Commissioner is authorized to charge such fees to Deposit Account No. 50-1063 [MSFTP252US].

09/893,943

MS174301.01/MSFTP252USREMARKS

Claims 1-36, 38-44, 46 and 47 are currently pending in the subject application and stand finally rejected under 35 U.S.C. §103(a). Applicants' representative petitions the Director to vacate the final rejection as premature for at least the following reasons. In the Final Office Action dated June 21, 2005, the Examiner has cited to a reference, Waldo U.S. Patent No. 6,449,648, not previously of record. The Examiner contends that the new search was necessitated by the applicants' amendment submitted in the Reply to the Office Action dated February 8, 2005. However, the claims as originally filed provided the Examiner with notice of the subject matter encompassed by the amended claims and thus, a new search was not necessitated by the amendment. A Request for Continued Examination (RCE) is filed concurrently herewith presenting the same arguments and amendments that were submitted in the Reply to the Final Office Action dated June 21, 2005. Should the Director vacate the final as premature, applicants' representative requests that the Director authorize a refund of the fees submitted with the RCE and order the Examiner to enter the amendments and issue a non-final Office Action.

The claims as originally filed encompass subject matter including a lease manager to monitor/control the lifetime of a remote object, establishing a lease for the remote object, selectively renewing the lease when the remote object is accessed and selectively garbage collecting remote objects whose leases have expired. (*See* original claims 14, 19, 28-30, and 38-39 provided in Appendix A). In the initial and a subsequent Office Action, the Examiner contended that Foley U.S. Patent No. 6,487,590 disclosed a lease manager and King U.S. Patent No. 6,681,263 disclosed establishing and renewing a lease. (*See* Office Action dated July 28, 2004 at pp. 4 and 8 and Office Action dated February 8, 2005 at pp. 5 and 9). Applicants' representative disagreed noting that neither Foley nor King, alone or in combination, taught or suggested establishing or renewing a lease to control the lifetime of a remote object. (*See* Reply to the Office Action dated July 28, 2004 at pp. 15-16 and Reply to the Office Action dated February 8, 2005 at pp. 12 and 14).

In the Final Office Action, the Examiner cited to a new reference, Waldo U.S. Patent No. 6,449,648, not previously of record. The Examiner stated that the rejection was made final because “[a]pplicant's amendment necessitated the new ground(s) of rejection presented in this Office action.” (*See* Final Office Action dated June 21, 2005 at p. 10). Applicants'

09/893,943MS174301.01/MSFTP252US

representative disagreed noting that the limitations added to the claims related to a lease for controlling the lifetime of a remote object and that this subject matter was encompassed by several of the original claims. (See Reply to the Final Office Action dated June 21, 2005 at p. 11).

The Examiner did not withdraw the final or enter the amendments submitted in the Reply to the Final Office Action dated June 221, 2005. (See Advisory Action dated September 6, 2005 at p. 2). The Examiner stated that because the claims as amended recited the limitation a lease that determines a lifetime of a remote object and comprises an initial lease period, this limitation was "clearly different from the dependent claims as originally filed." (Advisory Action dated September 6, 2005 at p. 2). Applicants' representative respectfully disagrees. For instance, original claim 38 rewritten in independent form reads (emphasis added):

A method for providing remoting services in a distributed object system, the method comprising:

providing an object reference base class from which a derived object reference class can inherit;

providing a human readable object reference to an instance of the object reference base class; and

controlling the lifetime of the remote object comprising

establishing a lease for the remote object;

selectively renewing the lease when the remote object is accessed; and

selectively garbage collecting remote objects whose leases have expired.

As is readily apparent, original claim 38 encompasses controlling the lifetime of a remote object by establishing a lease, which may be renewed or will expire. Inherent in the notion of a lease expiring or being renewed is that the lease has an initial term of some duration, and that at the end of that term, the lease will expire unless renewed. Thus, the original claims gave the Examiner notice of a lease having an initial term for controlling the lifetime of a remote object and a new search was not necessitated by the amendment.

09/893,943

MS174301.01/MSFTP252US**CONCLUSION**

For at least the foregoing reasons, applicants' representative petitions the Director to vacate the final rejection as premature. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063 [MSFTP252US].

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicants' undersigned representative at the telephone number below.

Respectfully submitted,
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09/893,943

MS174301.01/MSFTP252USAPPENDIX A

1. A system that facilitates remoting services in a distributed object system, the system comprising:
 - a remote object monitor, operable to monitor a remote object; and
 - a remote object manipulator, operably connected to the remote object monitor, the remote object manipulator operable to manipulate the remote object.
2. The system of claim 1, where the remote object monitor is further operable to provide a human readable reference to a remote object.
3. The system of claim 2, where the human readable reference to a remote object codes information comprising at least one of protocol information, protocol data, an application name and an object URI (Uniform Resource Identifier).
4. The system of claim 3, where the human readable reference to a remote object is a URL (Uniform Resource Locator).
5. The system of claim 3, where the protocol information is at least one of HTTP (Hypertext Transfer Protocol) information and SMTP (Simple Mail Transfer Protocol) information.
6. The system of claim 1, where the remote object monitor is operable to acquire metadata concerning a remote object.
7. The system of claim 6, where the metadata comprises at least one of information concerning interfaces implemented by the remote object, a type of the remote object, a class hierarchy of the remote object, methods implemented by a remote object, properties implemented by a remote object, fields implemented by a remote object and attributes implemented by a remote object.

09/893,943MS174301.01/MSFTP252US

8. The system of claim 1, where the remote object monitor is operable to provide entry points and process interception to facilitate activating a custom attribute based process.
9. The system of claim 8, where the custom attribute based activated process is performed before non-attribute code associated with a proxy object.
10. The system of claim 8, where the custom attribute based activated process is performed in parallel with non-attribute code associated with a proxy object.
11. The system of claim 8, where the custom attribute based activated process is performed after non-attribute code associated with a proxy object.
12. The system of claim 8, where the custom attribute based activation process is performed at least one of before, in parallel with, and/or after non-attribute code associated with a proxy object.
13. The system of claim 1, where the remote object monitor is operable to monitor the lifetime of a remote object.
14. The system of claim 13, where the remote object monitor employs a lease manager to monitor the lifetime of a remote object.
15. The system of claim 1, where the remote object monitor is operable to provide a human readable reference to a remote object, to provide metadata concerning a remote object, to provide entry points and process interception to facilitate activating a custom attribute based process and to monitor the lifetime of a remote object.
16. The system of claim 1, where the remote object manipulator is operable to update metadata associated with a remote object.

09/893,943

MS174301.01/MSFTP252US

17. The system of claim 16, where the metadata comprises at least one of information concerning interfaces implemented by the remote object, the type of the remote object, the class hierarchy of the remote object, methods implemented by the remote object, properties implemented by the remote object and attributes implemented by the remote object.

18. The system of claim 1, where the remote object manipulator is operable to control the lifetime of a remote object.

19. The system of claim 18, where the remote object manipulator employs a lease manager to control the lifetime of the remote object.

20. The system of claim 1, where the remote object manipulator is operable to update metadata concerning a remote object and to control the lifetime of the remote object.

21. A computer readable medium storing computer executable components of a system that facilitates remoting services in a distributed object system, the system comprising:
a remote object monitoring component; and
a remote object manipulating component operably connected to the object monitoring component.

22. A system that provides remoting services in a distributed object system, the system comprising:

an object reference generator operable to produce a human readable object reference to a remote object;
an object reference extender operable to extend an object reference class subclassed from a base class object reference class;
an interceptor operable to facilitate activating attribute based processing; and
a lifetime monitor operable to manage the lifetime of the remote object.

09/893,943

MS174301.01/MSFTP252US

23. The system of claim 22, where the human readable object reference to a remote object codes information comprising at least one of protocol information, protocol data, an application name and an object URI (Uniform Resource Identifier).
24. The system of claim 23, where the protocol information is at least one of HTTP (Hypertext Transfer Protocol) information and SMTP (Simple Mail Transfer Protocol) information.
25. The system of claim 22, where the object reference extender is further operable to facilitate overriding at least one of a method, an attribute, a property, a field, an interface and an event associated with the base class object reference class in the subclassed object reference class.
26. The system of claim 25, where the object reference extender is further operable to add at least one of a method, an attribute, a property, a field, an interface and an event to the subclassed object reference class.
27. The system of claim 22, where the attribute activated based processing is performed at least one of before, substantially in parallel with, and/or after non-attribute code associated with a proxy object.
28. The system of claim 22, where the lifetime monitor employs a lease manager to monitor the lifetime of the remote object.
29. The system of claim 28, where the lease manager is further operable to control the lifetime of the remote object.
30. The system of claim 29, where the lease manager interacts with a garbage collector to control the lifetime of the remote object.

09/893,943MS174301.01/MSFTP252US

31. A computer readable medium storing computer executable components of a system that provides remoting services in a distributed object system, the system comprising:
 - an object reference generating component operable to produce a human readable object reference to a remote object;
 - an object reference extending component operable to extend an object reference class subclassed from a base class object reference class;
 - an intercepting component operable to facilitate activating attribute based processing; and
 - a lifetime monitoring component operable to manage the lifetime of the remoted object.
32. A method for providing remoting services in a distributed object system, the method comprising:
 - providing an object reference base class from which a derived object reference class can inherit; and
 - providing a human readable object reference to an instance of the object reference base class.
33. The method of claim 32, where the object reference base class comprises:
 - one or more attributes that store information associated with at least one of:
 - the object type of an instance of the object reference base class;
 - an envoy associated with the instance of the object reference base class;
 - a channel associated with the instance of the object reference base class; and
 - a URI associated with the instance of the object reference base class.
34. The method of claim 33, where the object reference base class implements one or more interfaces that facilitate at least one of reading, writing and overriding the one or more attributes.
35. The method of claim 32, further comprising:
 - inheriting from the object reference base class;
 - overriding elements of the object reference base class in the derived object reference class; and
 - adding elements to the derived object reference class.

09/893,943

MS174301.01/MSFTP252US

36. The method of claim 35 where the elements comprise at least one of a property, a method, an interface, a field, an attribute and an event.
37. The method of claim 32, further comprising controlling the lifetime of the remote object.
38. The method of claim 37, where controlling the lifetime of the remote object comprises:
establishing a lease for the remote object;
selectively renewing the lease when the remote object is accessed; and
selectively garbage collecting remote objects whose leases have expired.
39. The method of claim 38, where controlling the lifetime of the remote object further comprises querying a lease sponsor before garbage collecting a remote object whose lease has expired.
40. The method of claim 32, further comprising:
intercepting calls made on a remote object;
determining whether the proxy has attributes that desire attribute based activation; and
selectively performing attribute based code associated with the proxy.
41. A method for providing remoting services in a distributed object system, the method comprising:
providing an object reference base class from which a derived object reference class can inherit;
providing a human readable object reference to an instance of the object reference base class;
creating a derived object reference class by inheriting from the object reference base class;
overriding elements of the object reference base class in the derived object reference class;
adding elements to the derived object reference class;

09/893,943MS174301.01/MSFTP252US

controlling the lifetime of the remote object;
intercepting calls made on the remote object;
determining whether the proxy has attributes that desire attribute based activation; and
selectively performing attribute based code associated with the proxy.

42. A computer readable medium storing computer executable instructions operable to perform a method for providing remoting services in a distributed object system, the method comprising:

providing an object reference base class from which a derived object reference class can inherit;

providing a human readable object reference to an instance of the object reference base class;

creating a derived object reference class by inheriting from the object reference base class;

overriding elements of the object reference base class in the derived object reference class;

adding elements to the derived object reference class;

controlling the lifetime of the remote object;

intercepting calls made on the remote object;

determining whether the proxy has attributes that desire attribute based activation; and
selectively performing attribute based code associated with the proxy.

43. A system for providing remoting services in a distributed object system, the system comprising:

means for defining a subclassable object reference class;

means for acquiring an instance of the subclassable object reference class;

means for acquiring a human readable reference to the instance;

means for producing a derived object reference class that inherits from the subclassable object reference class;

means for customizing the derived object reference class;

means for initiating garbage collection of a remote object;

09/893,943MS174301.01/MSFTP252US

means for intercepting remote method calls; and
means for selectively activating attribute code associated with the proxy.

44. A data packet adapted to be transmitted between two or more components, the data packet comprising:

a first field that stores information associated with a human readable reference to a remote object.

45. The data packet of claim 44, further comprising:

a second field that stores information associated with monitoring and/or controlling the lifetime of the remote object.

46. The data packet of claim 45, further comprising:

a third field that stores information associated with attribute activated processing.

47. A data packet adapted to be transmitted between two or more components, the data packet comprising:

a first field that stores information associated with a human readable reference to a remote object;

a second field that stores information associated with monitoring and/or controlling the lifetime of the remote object;

a third field that stores information associated with attribute activated processing; and

a fourth field that stores metadata associated with the remote object.